



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/767,695	01/24/2001	Drake Charles Stalions	58871.000006	3229

7590

04/09/2003

Jennifer A. Albert, Esq.
Hunton & Williams
Suite 1200
1900 K Street, N.W.
Washington, DC 20006

EXAMINER

LEE, GUIYOUNG

ART UNIT

PAPER NUMBER

2875

DATE MAILED: 04/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/767,695

Applicant(s)

STALIONS, DRAKE CHARLES

Examiner

Guiyoung Lee

Art Unit

2875

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-12 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4, 9, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okazaki et al. (USPT 5,298,768) cited by Applicant in view of Kobayashi et al. (USPT 4,316,208).

Re claim 1: Okazaki teaches a light emitting diode having a surface mount package (Fig. 6), a metal lead frame (4) having mass sufficient to provide low thermal resistance and at least one anode contact pad (18) and at least one cathode contact pad (19); a reflector (7 and 8) positioned within the package; and a semiconductor die positioned between an anode contact and a cathode contact over the reflector (1). Okazaki does not disclose a semiconductor die having a transparent substrate and a light-emitting component. However Kobayashi discloses a semiconductor die having a transparent substrate (61 in Fig. 12). It would have been obvious to one having ordinary skill in the art at the time of the invention to substitute Okazaki's semiconductor die with Kobayashi's semiconductor die having a transparent substrate and a light-emitting component (62 in Fig. 12), since it was well known in the art that the transparent substrate can transmit light from semiconductor die.

Re claim 2: Kobayashi teaches a focusing dome operative to refract light emitted from the semiconductor die.

Art Unit: 2875

Re claim 3: Okazaki teaches that the light reflected from the reflector can create a 120 degree illumination pattern (col. 5, line 45).

Re claim 4: Okazaki discloses a truncated cone shaped reflector (7 and 8 in Fig. 6).

Re claim 9: Kobayashi teaches a GaN-based compound semiconductor and a sapphire substrate (col. 8, lines 4-5).

Re claim 12: Kobayashi discloses that the substrate is positioned on top of the light emitting component over the reflector (See Fig. 12).

3. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okazaki and Kobayashi as applied to claim 1 above, and further in view of Yeager et al. (USPT 6,507,049 B1). The teachings of Okazaki and Kobayashi have been discussed above.

Re claims 6-8: Okazaki discloses a lead frame having a metallic layer (18 and 19). Okazaki is silent with regard to the silver-plated copper lead frame. However, Yeager discloses a lead frame made of silver-plated copper (col. 10, lines 50-51). It would have been obvious to one having ordinary skill in the art at the time of the invention to substitute Yeager's silver-plated copper lead frame with Okazaki's lead frame because silver-plated copper has a low thermal resistance.

4. Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okazaki and Kobayashi as applied to claim 1 above, and further in view of Hatano et al. (USPT 5,998,810) cited by Applicant. The teachings of Okazaki and Kobayashi have been discussed above.

Art Unit: 2875

Re claims 10-11: Okazaki and Kobayashi does not teach the light emitting component such as AlInGaP compound semiconductor and GaP substrate. However, Hatano discloses various types light emitting diode including AlInGaP compound semiconductor and GaP substrate (See Fig. 4-14). It would have been obvious to one having ordinary skill in the art at the time of the invention to employ the light emitting component comprising AlInGaP compound semiconductor and GaP substrate arranged side-by-side over the reflector as suggested by Hatano because the light emitting component having AlInGaP compound and GaP substrate has better controllability.

Allowable Subject Matter

5. Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record, Okazaki and Kobayashi, does not teach that the lead frame of the light emitting diode has three anode contact pads and one cathode contact pad, as set forth in the claim.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Art Unit: 2875

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Guiyoung Lee** whose telephone number is **(703) 308-8567**. The examiner can normally be reached between the hours of 8:00 AM to 3:30PM Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea, can be reached on (703) 305-4939. The fax phone number for this Group is (703)872-9318 (before final rejection), (703)872-9319 (after final rejection). The Right Fax phone number for the examiner is (703)746-4766.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [**Guiyoung.lee@uspto.gov**].

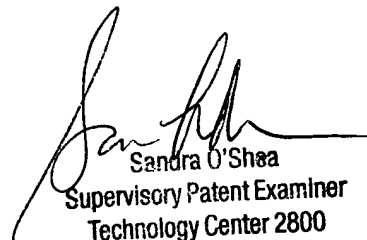
All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

GYL

GAU2875

April/02/2003


Sandra O'Shea
Supervisory Patent Examiner
Technology Center 2800